Aalto University
School of Business

31E2300
MACROECONOMICS: POLICY

THE SUPPLY SIDE, PART I:
LABOR MARKETS AND PRICING BEHAVIOR

THIS WEEK!

- The WS-PS (NEW KEYNEISAN) MODEL OF MEDIUM RUN UNEMPLOYMENT
  - CHANCE TO INTRODUCE SOME EXCITING NEW BEHAVIORAL RESEARCH ON LABOR MARKETS, AND EMPHASIZE DIFFERENCES WITH TRADITIONAL DEMAND/SUPPLY PARADIGM

- HOW THE MEDIUM RUN OR “SUPPLY SIDE” EQUILIBRIUM EXERTS PRESSURE ON THE SHORT RUN OR “DEMAND SIDE” EQUILIBRIUM OF THE LAST LECTURE(S).

THE DATA

- There is substantial variation across space and (especially) time.

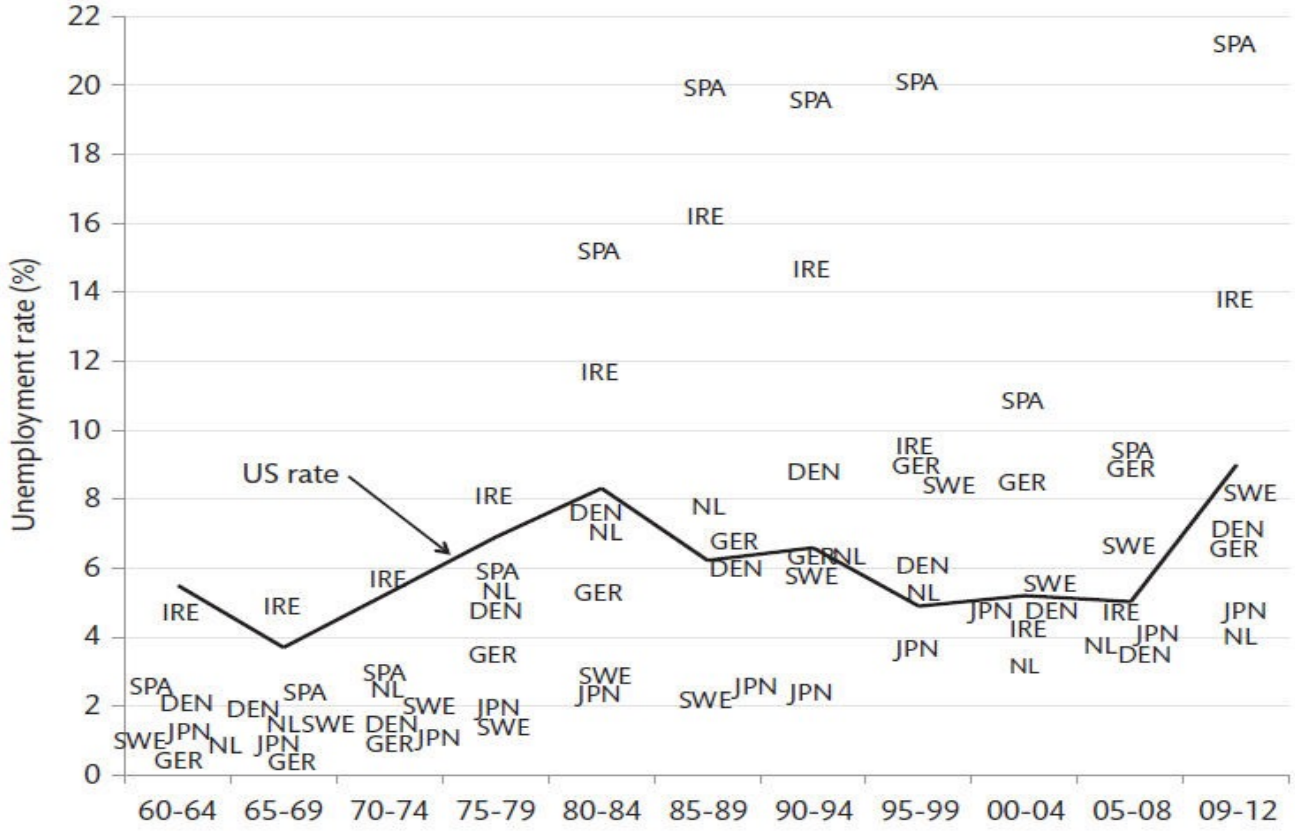


Figure 2.1 Trends and heterogeneity in unemployment for selected OECD economies, 1960–2012.

Source: Howell et al. (2007), Fig. 1.1, p. 10. Updated to 2012 using OECD harmonized unemployment rates.

MORE DATA

- Actual (short run) unemployment and the medium run NAIRU : Differences in experience between Europe and the UK, US:

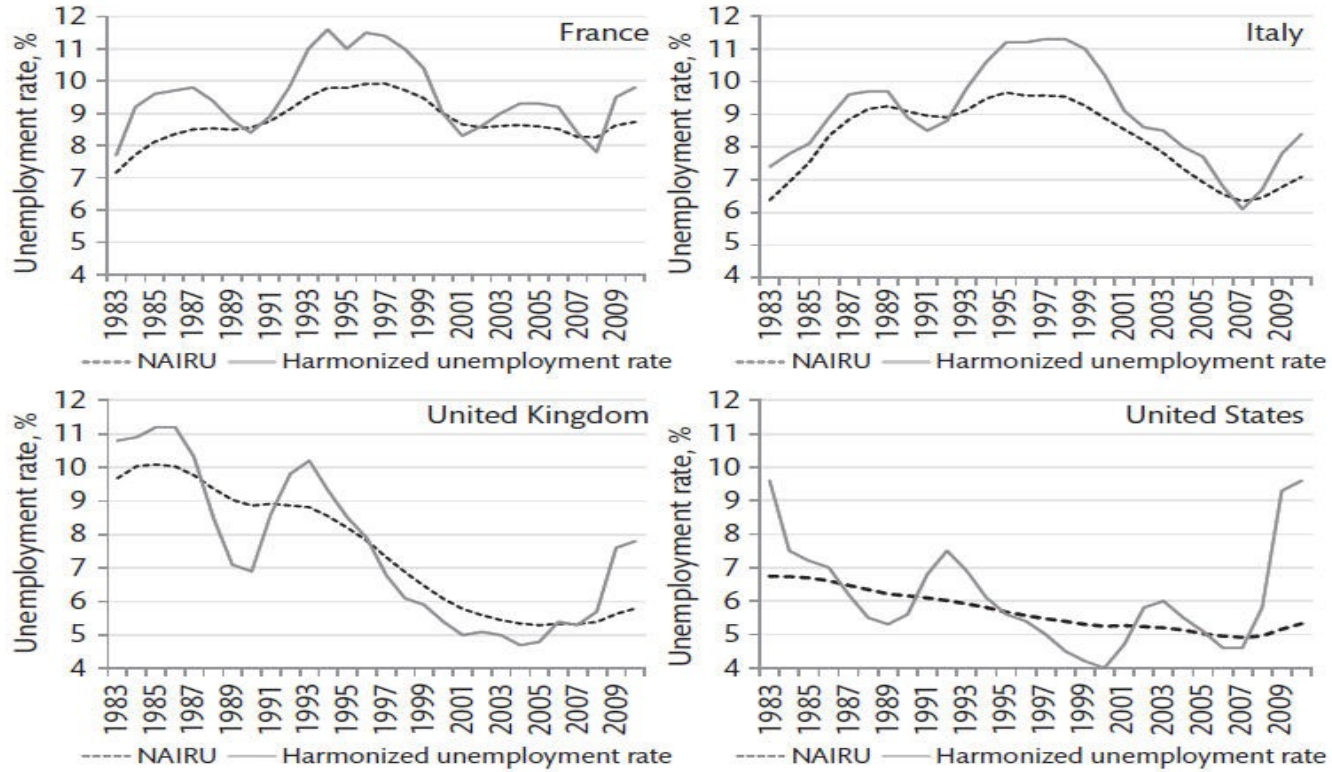


Figure 2.8 Non-Accelerating Inflation Rate of Unemployment (NAIRU) and harmonized unemployment rates in France, Italy, the United Kingdom and the United States: 1983–2010.

Source: OECD Economic Outlook (accessed December 2011).

EFFICIENCY WAGE HYPOTHESIS (YELLEN 1984) (OR, WHY DON'T WAGES FALL MORE?)

1. MORAL HAZARD (SHAPIRO AND STIGLITZ, EQUILIBRIUM UNEMPLOYMENT AS A WORKER DISCIPLINE DEVICE, AER, 1983)
2. LABOR TURNOVER (SALOP, 1979)
3. ADVERSE SELECTION (MALCOLMSON, 1979; WEISS, 1980)
4. SOCIOLOGICAL (AKERLOF ON GIFT EXCHANGE; FEHR ON FAIR WAGE EFFORT HYPOTHESIS) AND PSYCHOLOGICAL THEORIES
5. MORALE (BEWLEY, 1999)
6. (NOT REALLY EWH) BARGAINING, INDIVIDUAL AND COLLECTIVE

THE WS CURVE

WS equation:

where N: employmer $w^{WS} = \frac{W}{P^E} = B(N, \boldsymbol{z}_w)$;

If it helps, think of this as the real wage to which workers aspire through nominal wage bargains, given price/inflation expectations

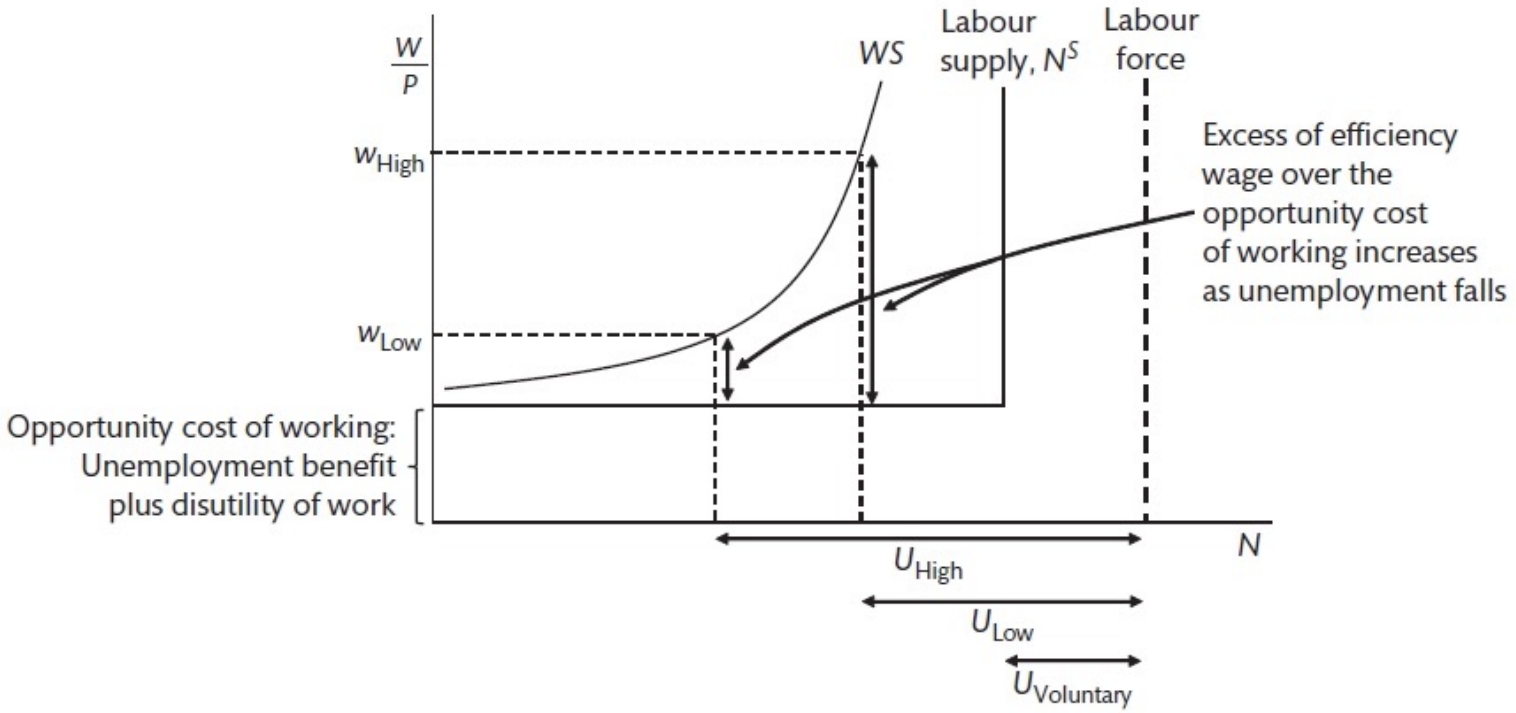


Figure 2.10 Efficiency wage setting.

PREDICTIONS?

WHAT WOULD HAPPEN IF THE FOLLOWING “SHIFT FACTORS” CHANGED?

A. FALL IN UNEMPLOYMENT BENEFITS? (WHY? SEVERAL EXPLANATIONS …)

B. UNION POWER DECLINES?

C. TECHNOLOGICAL PROGRESS IMPROVES WORKER PRODUCTIVITY?

D. GOVERNMENT JOB MATCHING PROGRAM INTRODUCED?

(NOTICE: THE FIRST AND FOURTH ARE EXAMPLES OF “STRUCTURAL” – NEITHER MONETARY NOR FISCAL – POLICIES.)

THE PS CURVE

- Perfect competition in labor markets: *Let's suppose firms are wage takers, so real wages equal the marginal product of labor* $\left(\frac{W}{P} = MPL\right)$

- Imperfect competition in product markets: *Firms set price to maximize profits, a mark-up over marginal labor costs:*

$$P = \left(1 + \frac{1}{\eta - 1}\right)\left(\frac{W}{MPL}\right) \equiv (1 + \mu)\left(\frac{W}{MPL}\right)$$

η: *Elasticity of demand;* μ: *Mark-up*

Why should the mark-up depend on the elasticity of demand?

- *Rearranging this, we get the PS curve:*

$$\frac{W}{P} = \frac{1}{(1 + \mu)} MPL \approx (1 - \mu) MPL$$

Modelling:

Once we allow for imperfect competition, *price-setting real wage will be a fraction of MPL,* to allow for supernormal (real) profits.

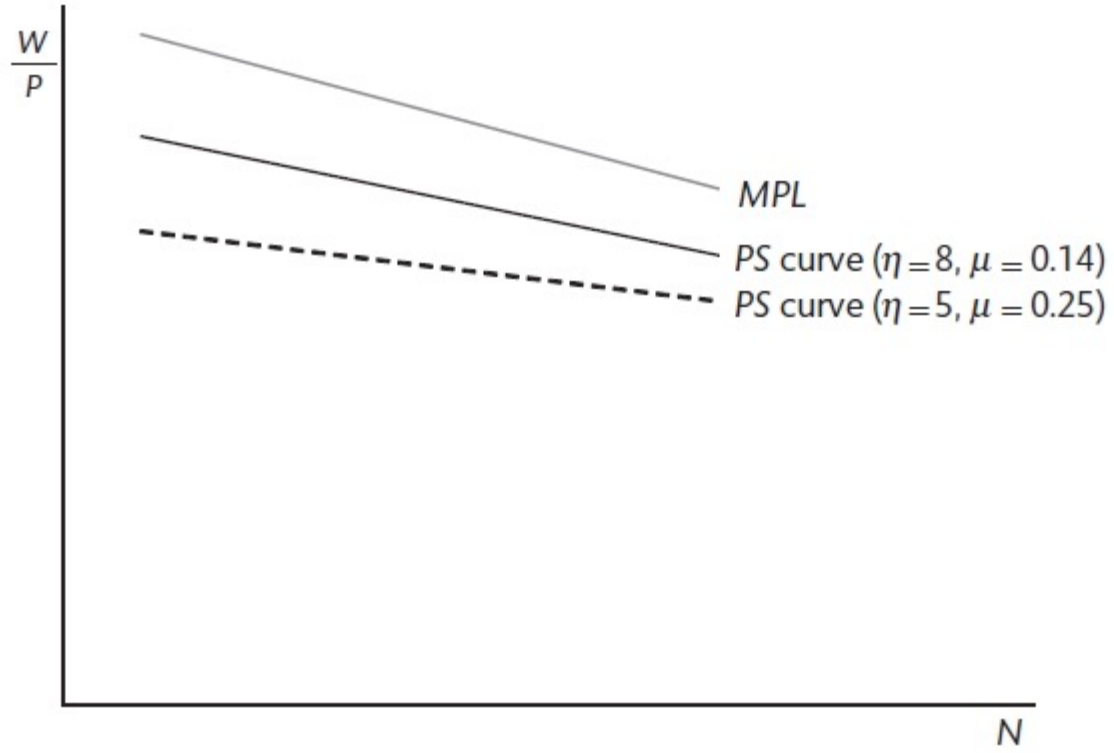


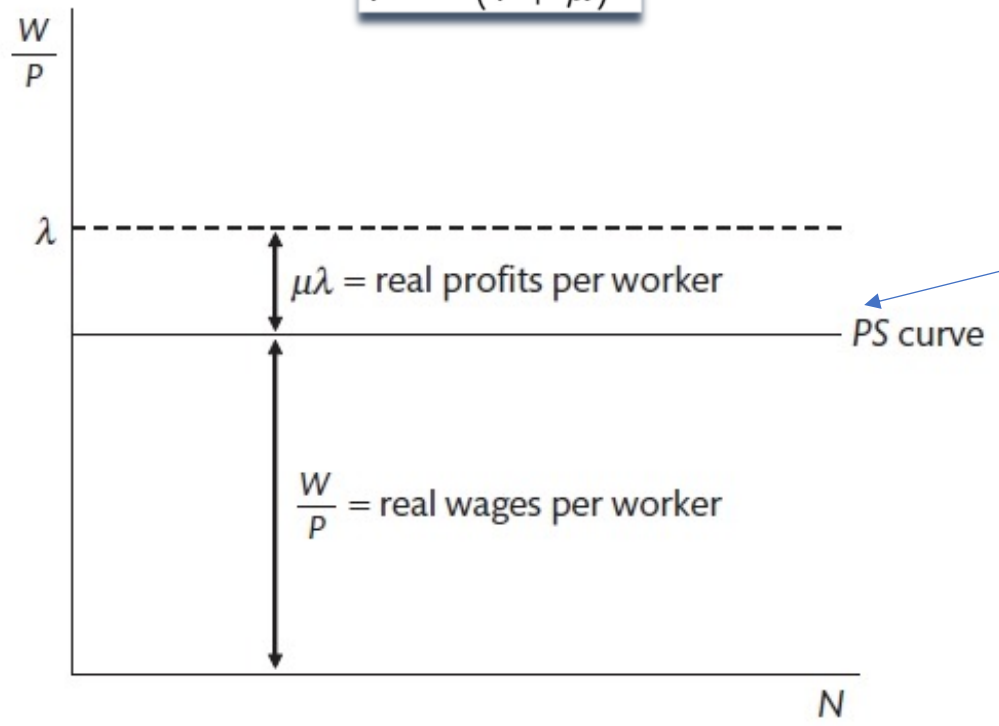
Figure 2.11 Relationship between the *MPL*, the price elasticity of demand (η), and the *PS* curve.

A TEXTBOOK SIMPLIFICATION

For simplicity, we use a Horizontal PS Curve. Assume a constant MPL (= APL), so

$$P = (1 + \mu)\left(\frac{W}{\lambda}\right)$$ where λ: *labor productivity (constant)*

This means: $$\frac{W}{P} = \frac{1}{(1+\mu)}\lambda \approx (1-\mu)\lambda$$



$$w^{PS} = \frac{W}{P} = \lambda(1-\mu)$$

Figure 2.12 The price-setting real wage curve: *PS*.

PS CURVE (CONTINUED)

- In algebraic terms: $w^{PS} = \lambda F(\mu, \mathbf{z}_p)$, where μ is the mark-up and z_p refers to "price-push factors."

- Examples of price-push factors that shift the PS curve upwards:
  - A fall in the tax wedge (real consumption wage less real product wage);
  - A fall in mark-up (μ) due to, for example, tougher competition policy rules or enforcement;
  - A rise in productivity (λ).

A PICTURE IS WORTH A THOUSAND WORDS (AND AN APPLICATION, IF TIME)

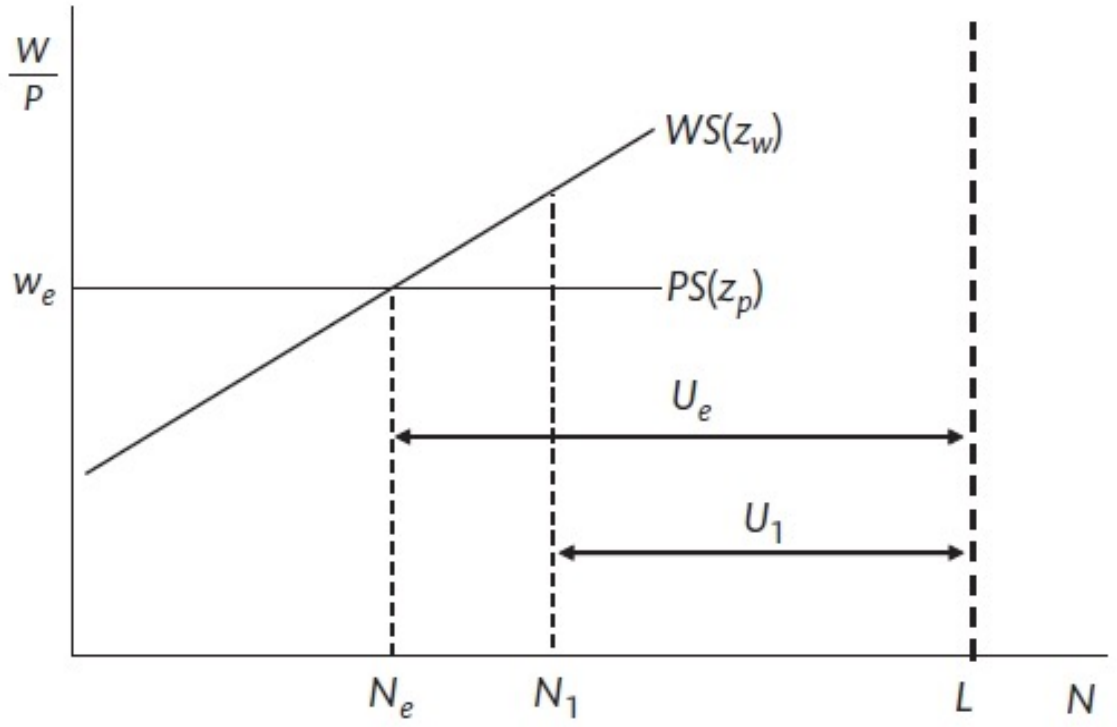


Figure 2.13 Equilibrium employment and unemployment: N_e and U_e.